

Appl. No. 09/652,820  
RCE Submission dated Dec. 9, 2004  
Reply to Final Office Action of Sept. 9, 2004

### Amendments to Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims

Claims 1-15 (cancelled).

Claim 16 (previously presented): An image processing method for recovery of a scene structure from successive image data where motion of the scene structure is linear, the method comprising the steps of:

- (a) computing rotational motion in the successive image data using rotational flow vectors derived from a set of intensity data collected from the successive image data;
- (b) constructing a shift data representation for the intensity data that compensates for the rotational motion in the successive image data;
- (c) decomposing the shift data representation into a motion vector and a structure vector;
- (d) dividing the successive image data into smoothing windows; and
- (e) computing a projection matrix which is block diagonal between different smoothing windows and which is used to recover the scene structure by solving for the structure vector.

Claim 17 (previously presented): The image processing method of claim 16 wherein the shift data representation is decomposed using singular value decomposition.

Claim 18 (previously presented): The image processing method of claim 17 wherein singular value decomposition is used to compute a rank-1 factorization of  $-\Delta_{CH} \approx M^{(1)}S^{(1)r}$  where  $M^{(1)}$  is the motion vector and  $S^{(1)}$  is the structure vector.

Claim 19 (previously presented): The image processing method of claim 16 wherein the method is iterated until it converges to a reconstruction of the scene structure.

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Claim 20 (previously presented): A device-readable medium comprising instructions for performing an image processing method for recovery of a scene structure from successive image data where motion of the scene structure is linear, the method comprising the steps of:

- (a) computing rotational motion in the successive image data using rotational flow vectors derived from a set of intensity data collected from the successive image data;
- (b) constructing a shift data representation for the intensity data that compensates for the rotational motion in the successive image data;
- (c) decomposing the shift data representation into a motion vector and a structure vector;
- (d) dividing the successive image data into smoothing windows; and
- (e) computing a projection matrix which is block diagonal between different smoothing windows and which is used to recover the scene structure by solving for the structure vector.

Claim 21 (previously presented): The device-readable medium of claim 20 wherein the shift data representation is decomposed using singular value decomposition.

Claim 22 (previously presented): The device-readable medium of claim 21 wherein singular value decomposition is used to compute a rank-1 factorization of  $-\Delta_{CH} \approx M^{(i)} S^{(i)r}$  where  $M^{(i)}$  is the motion vector and  $S^{(i)}$  is the structure vector.

Claim 23 (previously presented): The device-readable medium of claim 20 wherein the method is iterated until it converges to a reconstruction of the scene structure.